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ABSTRACT

A bilingual program was implemented to meet the educational needs of Spanish American and Indian children with noted deficiencies in English and/or their native languages. The program components were an English Oral Language Program coupled with concept reinforcement in the vernacular for kindergarten children using non-standard English, along with a Spanish Oral Language Program for non-Spanish-speaking kindergarten children and for children with a basic structure and phonology in Spanish. Language instruction was provided on a differentiated basis, depending on diagnostic measures. Proficiency in both languages was ascertained with pre- and post-testing. Parental attitudes toward bilingual/bicultural programs and student attitudes toward their own and other cultural characteristics were also measured. Although statistical findings did not indicate highly significant gains in student achievement, the trend was in a positive direction. It was strongly recommended that both program components be continued after careful examination and revision. (JH)

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THE EFFECTS OF BILINGUAL/BICULTURAL INSTRUCTION AMONG SPANISH-SPEAKING, ENGLISH-SPEAKING, AND SIOUX-SPEAKING KINDERGARTEN CHILDREN

A Report of Statistical Findings and Recommendations

for

Educational Unit No. 18

Scottsbluff, Nebraska

by

Dr Atilano A. Valencia

August, 1970

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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I. INTRODUCTION

The school data from the districts served by Educational Service Unit No. 18, Scottsbluff, Nebraska, have indicated that the dropout percentage among children from Mexican American and American Indian families in the region far exceed that of Anglo children. Specifically, it has been found that the percentage of Mexican American youngsters graduating from high school is 17 per cent below that of the Anglo student. The percentage of American Indians terminating the 12th grade is even lower than that of the Mexican American. For example, within the past ten years, only one (1) American Indian has graduated from high school in the Alliance School District where the greatest number of Indians are enrolled among all of the schools in the project.

The number of students dropping out of school through the grades among both of these ethnic groups (Indian and Spanish-speaking) poses a serious educational problem in this region. It was therefore proposed that a program be instituted which will provide positive learning experiences, with reference to the native language and other elements of the child's culture. It was expected that from these early experiences, the child will develop a positive attitude about himself, his culture, and children from other American ethnic groups.

In a meeting with members of the Bilingual Advisory Committee held on April 17, at the Unit No. 18 Center, it was learned that interest and need for a bilingual program in English and Spanish had been expressed in the Mexican American population of the region. According to the Committee members, there also was evidence

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of support for the program in the Anglo-American community. A positive reaction to institutionalizing an oral language kindergarten program designed to enhance learning and further schooling among Indian children also had been expressed by members of the local American Indian Council.

Based on the foregoing observations, the Educational Service Unit No. 18 proposed to implement a bilingual program to meet the educational needs of Spanish-speaking, Indian-speaking, and other ethnic groups with noted deficiencies in English and/or their native languages.

II. PROGRAM COMPONENTS

Program Procedures

The Bilingual Education Program consisted of two major components: (1) kindergarten English Oral Language Program for children using non-standard English, coupled with concept reinforcement in the vernacular as needed; (2) a kindergarten Spanish Oral Language Program for children with a basic structure and phonology in Spanish designed to enrich and further develop their native language, as well as for non-Spanish-speaking children in the program.

It was expected that the reinforcement of cognitive, psychomotor, as well as affective aspects, would be accomplished in the vernacular, wherever needed, by bilingual teaching aides in the English OLP and in other areas of the kindergarten curriculum. Instruction in the Spanish Oral Language Program was conducted by professional bilingual teachers, with assistance from one or more bilingual teacher-aides.

The English OLP component of the project was based on a program designed and developed by the Southwestern Cooperative Educational Laboratory, Inc., and the Spanish OLP component used features of the second approach developed by the Laboratory. However, the latter component involved project personnel in further developing or modifying content, methodology, materials, and media in Spanish for children at the kindergarten level.

Objectives

The principal objectives in the program were given as follows:

1. To improve the teaching of English to children who come from Spanish-speaking backgrounds, as well as to other children who use a non-standard English.
2. To affect a positive attitude toward Spanish by non-Spanish-speaking children.
3. To improve the oral Spanish language component of Spanish-speaking children, including readiness for reading, writing, and other language arts processes.
4. To help children apply language skills in other content areas in the curriculum.
5. To use the child's native language as a medium in the methodology, wherever needed, for enhancement of early cognitive and psychomotor development among children with English language deficiencies.
6. To develop a better image of the child's own culture, as well as other cultures in his total environment.
7. To establish a closer home-school relationship.
8. To select and develop instructional materials and teaching methods, and to modify available materials to reflect the needs of disadvantaged children.
9. To provide transition programs for children who come to school from cultures other than the middle-class majority and/or with a non-standard English usage.

The proposed project commenced in September, 1969, with a specialized kindergarten bilingual program for approximately 344 pupils from a total kindergarten population of 2,333. The assignment of pupils to the program was conceived as follows: 229 Anglo American, 97 Spanish surnamed, and 18 American Indian.

Language instruction in both languages was provided on a differentiated basis, depending on diagnostic measures. Pupils met in a heterogeneous setting; however, oral language development in both languages was given in accordance to level of proficiency. Pupils also were grouped heterogeneously to participate in other kindergarden language activities.

In essence, the bilingual program included English as a Second Language (ESL) for the child with non-standard English usage, and a Spanish oral language approach for both Spanish and non-Spanish speaking children. Along with this, the teacher and/or teacher-aide used the child's vernacular (Spanish or Indian dialect) in the instructional scheme, as needed. However, in the case of the Sioux, the American Council of Sioux Indians prevents instruction of the native language. Yet, it was possible for Sioux teacher-aides to communicate in the native language with Sioux Indian children where needed.

III. EVALUATION DESIGN

Independent Variables

An evaluation component was designed to ascertain the overall effectiveness of the program after the first year of operation. Specifically, the internal evaluation phase of the program was designed to ascertain level of English and Spanish proficiency on a pre-/post-test basis, parental attitudes toward a bilingual/bicultural program, and pupil (Anglo American, Mexican American, and American Indian) attitudes toward their own and other cultural characteristics.

The experimental effects of the bilingual program were to be evaluated as follows:

1. The two components of the Bilingual Program (English and Spanish) were to be evaluated for effectiveness in terms of oral language attainment. In essence, the evaluation scheme was to compare achievement gains in language (Spanish and English), with reference to pre/post-test results among the experimental and control groups in the school system, between experimental groups, as well as between the experimental groups and the control group.

2. The testing program was to determine attitudinal change among parents (Anglo and Spanish surname) toward Spanish and English instruction and usage.

3. The testing program also was to ascertain the attitudinal change of pupils toward given characteristics of people in their own and other cultures.

Sampling Population and Treatment Conditions

After the installation of the bilingual/bicultural program, the following school and population data were produced relative to the experimental and control conditions:

District Kindergarten	SWCEL OLP Lessons Completed	Teachers	Teacher Aides	Population Types: Anglo Amer.	Span. Surname	Amer. Indian
Bayard Elementary	52	A&B	yes	28	7	0
Alliance and Grandview	73	C&D	yes	17	8	4
Alliance and Grandview	73	C&D	yes	29	3	0
Gering-McKinley	46	E&F	yes	20	8	0
Gering-McKinley	46	E&F	yes	22	6	0
Morrill	72	G&H	yes	29	7	0
Roosevelt	56	I&J	yes	23	5	0
Roosevelt	56	I&J	yes	10	12	2
Roosevelt	54	K&L	yes	15	11	0
Roosevelt	54	K&L	yes	8	14	1
Mitchell	0	M	no	16	7	0

While the foregoing data show a total of 10 experimental groups, the data collected (pre- and post-test) were based on a smaller population sample. The exclusion of various experimental groups was necessary in order to include the three ethnic groups in the statistical analyses. Yet, because of the smaller population representation of Mexican American and American Indian as compared to Anglo American, an exact numerical equivalency between the three ethnic groups was impossible. However, all of the experimental group children in the statistical sample were exposed to the SWCEL OLP, Spanish oral language instruction or reinforcement of concepts in their native language (Spanish or Sioux), and content related to the cultural heritage of the three ethnic groups. Additionally, a control group (children who were not exposed to the foregoing experimental variables) was provided for comparative purposes. It was, therefore, expected that the experimental treatments

and control group condition, together with the testing, would produce sufficient quantitative and qualitive measures for the evaluator to formulate a number of valid conclusions on program effectiveness and recommendations for further alterations.

Test Instruments

Three types of instruments were used to measure the language (oral English and oral Spanish) proficiency and cultural attitudes among the children in the program. The SWCEL Oral Language Test was used to determine the level of oral English proficiency on a pre- and post-test basis, the Spanish Oral Capacity Test* was used to ascertain the level of oral Spanish ability on a pre- and post-test measure, and the Valencia Cultural Sensitivity Test was given to measure experimental group attitudes toward given characteristics in their own and two other ethnic groups.

The SWCEL Test consists of three language components; namely, vocabulary, pronunciation, and structure. The total number of points possible on this test is 227. The validity of this instrument has been proved in several evaluation schemes where the SWCEL OLP has been used. In this sense, the validity of the instrument is relative to the SWCEL OLP.

The Spanish Oral Capacity Test (revised version) consists of about 30 possible responses. This test does not provide a measure of the various language

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*The Spanish Oral Capacity Test used in this study is an adaptation of a test used for non-English speaking children by the Texas Technological University pre-school Screening Service. A sample copy of this text is provided in Appendix A.

categories given in the SWCEL Test. However, due to the unavailability of a more adequate and appropriate Spanish oral language instrument, the Spanish Oral Capacity Test was selected for use in this evaluation study. It will be noted, however, that this test serves more appropriately as a pre-test instrument. Because of the limitations in extent and variety of responses, the application of this instrument as a post-test is questionable. This observation must be considered in interpreting and drawing inferences from the statistical findings relative to the Spanish language component in the program.

The Cultural Sensitivity Instrument, designed by the author of this report, measures the child's attitudes toward physiological characteristics found in three ethnic groups (Anglo American, Mexican American, and American Indian). It is pictorial in nature and gives a quantitative attitudinal measure in centimeters. A total of 1,360 points is possible on each of the given variables. The higher the score, the greater is the positive attitude of the child toward his own or two other ethnic groups. At the conclusion of the testing and scoring, three scores would be available of each examinee. This test must be administered on an individual basis. Preliminary data from a pilot study indicate that the reliability of the test is beyond .90, in terms of the Pearson r.

A parental attitudinal questionnaire was designed by Educational Service Unit No. 18 personnel. This questionnaire was administered by personnel from the [illegible] Education Service Unit. To avoid repeating the testing with the same sampling of parents, the questionnaire was administered to a different group of parents in the pre- and post-test conditions. Although the experimental advantage of using the same sampling on a pre- and post-test basis was not considered in this phase of the testing, it is expected that the data will, nevertheless, provide a number of indications on parental attitudes towards the bilingual/bicultural program.

IV. STATISTICAL ANALYSES AND FINDINGS

English Oral Language Achievement Among Experimental and Control Group Students

Table I shows the mean differences between a sampling of experimental students and control group pupils on four English oral language variables. The experimental students were given the Southwestern Cooperative Educational Laboratory Oral Language Program, while the control group students were not provided with the same program. The statistical findings, based on analysis of covariance, reveal no significant differences (.05 level of confidence) between the experimental students and control group pupils in vocabulary and structure. Only in pronunciaton is a difference noted in favor of the experimental students at the .05 level of confidence. However, all of the means tend to favor the experimental students.

A second analysis was performed to determine experimental and control group student gains in English vocabulary, pronunciation, and structure. Based on an analysis of variance, both groups (experimental and control) gained significantly (.01 level of confidence or beyond) between the pre-test and the post-test results. Again, it is noted that the significant gains (F ratios) were higher for the experimental as compared to the control group students.

Using the same language variables, an analysis of covariance was performed to determine the statistical difference between five experimental groups. The data in Table III show no significant difference (.05 level of confidence) between the five experimental groups on vocabulary, pronunciation, and structure. In simple terms, the findings reveal that all of the experimental groups in this statistical analysis scored nearly the same on the SWCEL oral language post-test.

TABLE I

Mean Differences Between Experimental and Control Groups on Four Oral English Language Variables, Using the SWCEL Test and Analysis of Covariance

Criterion Variable	n	Groups	Pre-Test	Post-Test	Adjusted Post-Test	St'd Deviation	F Ratio
Vocabulary	59	Experimental	20.24	22.85	22.82	1.26	.10
	22	Control	19.68	22.64	22.72	1.43	
Pronunciation	59	Experimental	27.95	29.85	29.87	1.74	6.01*
	22	Control	28.73	28.73	28.67	2.40	
Structure	59	Experimental	97.05	115.51	113.57	22.83	.80
	22	Control	84.09	103.95	109.16	18.14	
Total	59	Experimental	147.02	170.02	168.09	24.19	1.29
	22	Control	134.14	157.05	162.22	20.28	

*Denctes significant difference at the .05 level of confidence

TABLE II

Pre/Post Test Comparison On Four
Oral English Language Variables,
Using the SWCEL Test and Analysis of Variance
(All Experimental Groups Combined and Control Group)

Criterion Variable	n	Groups	Pre-Test	Post-Test	Standard Deviation	F Ratio
Vocabulary	59	Experi-mental	20.24	22.85	2.35	51.77**
	22	Control	19.64	22.64	2.66	18.68**
Pronunciation	59	Experi-mental	27.95	29.85	2.78	15.32**
	22	Control	28.73	28.73	2.47	.00(NS)
Structure	59	Experi-mental	97.05	115.51	24.01	20.11**
	22	Control	84.09	103.95	19.51	14.69**
Total	59	Experi-mental	147.02	170.02	26.59	26.69**
	22	Control	134.14	157.05	22.15	15.33**

** Denotes significant difference at the .01 level of confidence

(NS) Denotes no significant difference at the .05 level of confidence

TABLE III

Mean Differences Between Experimental Groups
on Four Oral English Language Variables,
Using the SWCEL Test and Analysis of Covariance

Criterion Variable	n	Groups	Pre-Test	Post-Test	Adjusted Post-Test	St'd Deviation	F Ratio
Vocabulary	11	I	20.72	23.09	23.08	1.16	1.35
	20	II	20.20	22.75	22.76	1.09	
	8	III	19.38	23.25	23.44	.83	
	6	IV	21.50	23.33	23.05	.74	
	14	V	20.21	22.36	22.36	1.67	
Pronunciation	11	I	28.45	30.36	30.30	.88	.71
	20	II	28.75	29.70	29.60	2.19	
	8	III	26.86	30.38	30.51	.86	
	6	IV	28.67	29.83	29.74	.69	
	14	V	26.71	29.36	29.51	2.02	
Structure	11	I	95.18	121.91	122.98	19.62	1.02
	20	II	109.15	118.05	111.14	23.47	
	8	III	103.00	111.38	107.97	21.30	
	6	IV	79.67	103.33	113.27	24.69	
	14	V	85.29	114.43	121.15	21.71	
Total	11	I	145.82	177.36	178.05	20.03	.10
	20	II	160.10	172.30	164.78	25.51	
	8	III	151.00	166.75	164.46	21.79	
	6	IV	131.33	158.00	167.02	24.54	
	14	V	133.71	168.00	175.65	23.89	

Spanish Oral Language Proficiency Among Experimental Group Students

A significant gain (beyond the .01 level of confidence) was noted in Spanish oral language development, using the Spanish oral Capacity Test and an analysis of variance. These findings are given in Table IV at the end of this section of the report.

Another analysis was undertaken to ascertain pre-test and post-test differences between Mexican American and Anglo American kindergarten children on Spanish oral language, using the Spanish Oral Capacity Test. It is noted that while a significant difference (beyond the .01 level of confidence) exists between the two cultural groups on the pre-test, no significant difference (.05 level of confidence) is indicated on the post-test comparison. In terms of the group means, a smaller gain is given for the Spanish surnamed students as compared to the Anglo. Two conclusions can be drawn from this observation. Since the Spanish surnamed pupils scored relatively higher on the pre-test,greater gains were not reflected in terms of the test instrument. It also can be concluded that the post-test failed to measure the linguistic elements presented through the instructional programs. The limitations of the Spanish Oral Capacity Test as a post-test measure are clearly apparent in this study. These limitations also were noted in the evaluation study conducted for the Wilson Bilingual Program in Phoenix, Arizona. However, since the data have revealed significant gain in Spanish oral language development in the total experimental group, it can be concluded that the Spanish language program has had a positive effect in the learning scheme. Yet, the extent of this learning can not be accurately determined

at this stage of program development due to the limitations of the measuring instrument. Two recommendations relative to program and instrument revisions are covered in the final section of this report.

TABLE IV

Spanish Oral Language Proficiency
Based on the Spanish Oral Capacity Test,
Using Analysis of Variance
(Pre- Post-Test Comparison)

Variable	n	Group	Pre-Test	Post-Test	St'd Deviation	F Ratio
Incorrect Responses	59	Experimental (Scottsbluff)	1.56	6.53	4.54	49.54**
Correct Responses	59	Experimental (Scottsbluff)	1.98	6.81	4.98	35.74**

**Denotes significant difference at the .01 level of confidence

TABLE V

Mean Differences on Spanish Oral Proficiency Between
Two Experimental Groups, Based on the
Spanish Oral Capacity Test
(F Ratios Derived Through Analysis of Variance and Analysis of Covariance)

Variables	n	Groups	Pre-Test	Post-Test	Adjusted Post-Test	St'd Deviation (Post)	F Ratios		
							Pre-Test Difference	Post Test Difference	Adjusted Post-Test Difference
Incorrect Responses	50	Anglo	.58	6.20	6.43	3.71	39.28**	2.20	.11
	9	Span. Surname	7.00	8.33	7.04	4.83			
Correct Responses	50	Anglo	.58	6.36	6.71	3.82	61.95**	4.14	.12
	9	Span. Surname	9.78	9.33	7.41	4.67			

**Denotes significant difference at the .01 level of confidence

Experimental Group Attitudes Toward Characteristics Found in Three Ethnic Groups

Three statistical analyses were performed to ascertain pupil attitudes toward characteristics found in three ethnic groups (Anglo American, American Indian, and Mexican American). The Cultural Sensitivity Test was used on a pre- and post-test comparison, and an analysis of variance was applied to determine the significant difference between the experimental groups and the difference within the groups.

Table VI reveals no significant change (pre- versus post-test) in the Mexican American, Anglo American, and American Indian (Sioux) attitudes toward characteristics relative to the three ethnic groups. But it also is noted that relatively favorable attitudes toward characteristics in the three ethnic groups existed among the three cultural groups prior to program exposure. Degree of favorableness was beyond a 70 per cent score for Anglo American and Mexican American children. The Sioux scored only about one point below on one of the variables (attitudes toward Mexican American characteristics), and was beyond 70 per cent on the two other variables (attitudes toward his own and Anglo American characteristics). Changes in attitude, in the positive direction, were indicated for both the Mexican American and Anglo American. Although, in terms of the statistical analysis, these gains are not given significance at the .05 level of confidence, it is noteworthy that the trend is in the positive direction. In comparison to the two other ethnic groups, the direction of attitudinal change for the Sioux was slightly in the negative direction; however, this variance was statistically insignificant.

Two analyses were performed to ascertain attitudinal differences between the three cultural groups toward characteristics in the three ethnic groups. Analyses of variance were applied on the pre-test and on the post-test data.

Tables VII and VIII clearly show no significant differences, using the .05 level of confidence as a reference base, between the three cultural groups on the three variables. While the pre- and post-test means of the Sioux were slightly lower than those of the Anglo American and Mexican American, the differences were statistically insignificant.

Based on the foregoing analysis and findings, it can be concluded that, in general, the cultural component in the program has maintained a positive perspective among the children relative to characteristics found in the three ethnic groups in the study. The positive attitudinal trends found among the Mexican American and Anglo American are noteworthy. Recommendations for further observation on these variables are given in the final section of this report.

TABLE VI

Group (Pre- Post-Test) Differences on Three
Criterian Variables, Based
on the Cultural Sensitivity Test
(Statistical Findings Based on Analysis of Variance)

Variables*	n		Groups	Pre-Test	Post-Test	St'd Deviation	F Ratio
	Pre	Post					
1	46	47		1118.37	1175.17	285.45	.90
2	46	47	Anglo	1090.72	1166.57	308.89	1.39
3	46	47	American	1055.67	1115.15	308.03	.85
1	34	4		1199.33	1063.00	163.03	.84
2	34	4	American	1099.67	977.67	175.15	.55
3	34	4	Indian	940.67	928.75	266.96	.02
1	17	16		1119.76	1224.31	278.98	1.12
2	17	16	Mexican	1074.35	1183.00	309.26	.98
3	17	16	American	1073.59	1215.31	315.36	1.64

*The numerical symbols under the heading variables are identified as follows:

1: Attitude Toward Anglo American Characteristics.
2: Attitude Toward American Indian Characteristics.
3: Attitude Toward Mexican American Characteristics.

TABLE VII

Group (Pre-Test) Mean Differences on Three
Cultural Variables, Based
on the Cultural Sensitivity Test
(Statistical Findings Based on Analysis of Variance)

Variable	n	Groups	Pre-Test Mean	St'd Deviation	F Ratio
Attitude Toward Anglo American Characteristics	46 3 17	Anglo American American Indian Mexican American	1118.37 1199.33 1119.76	282.68 167.66 252.34	.12
Attitude Toward American Indian Characteristics	46 3 17	Anglo American American Indian Mexican American	1090.72 1099.67 1074.35	278.78 208.62 292.98	.02
Attitude Toward Mexican American Characteristics	46 3 17	Anglo American American Indian Mexican American	1055.67 940.67 1073.59	281.64 341.17 304.51	.25

TABLE VIII

Group (Post-Test) Mean Differences on Three
Cultural Variables, Based
on the Cultural Sensitivity Test
(Statistical Findings Based on Analysis of Variance)

Variable	n	Groups	Post-Test Mean	St'd Deviation	F Ratio
Attitude Toward Anglo American Characteristics	47 4 16	Anglo American American Indian Mexican American	1175.17 1098.25 1224.31	285.36 124.67 295.36	.35
Attitude Toward American Indian Characteristics	47 4 16	Anglo American American Indian Mexican American	1166.57 992.25 1183.00	331.50 91.81 316.19	.57
Attitude Toward Mexican American Characteristics	47 4 16	Anglo American American Indian Mexican American	1115.15 928.75 1215.31	329.19 149.13 310.24	1.37

Parental Attitudes Toward Further Schooling for Their Children

A questionnaire was designed by district personnel to determine parental attitude relative to further schooling for their children. Three types of responses, with greater degree of relevancy to the experimental treatment, were selected for analyses. The results in this part of the evaluation is based on post-test data. Due to the unavailability of data from the same population (experimental and control) on the pre- and post-tests, a pre- versus post-test comparison was not possible.

The first set of responses selected for analysis pertained to parental expectations of further schooling for their children. The statistical findings show a close similarity between parents of experimental group children and control group children (experimental group 69.7 per cent and control group 70.8 per cent). The results are based on the combined percentage of favorable responses given by Mexican American, American Indian, and Anglo American parents in both the experimental and control group. Moreover, it is noted that both groups of parents maintain a high level of educational aspirations for their children.

The second set of responses chosen for analysis referred to parental perceptions on their children's favorable or unfavorable attitudes toward school. Again, the statistical data show a strong similarity between the parents of the experimental and control group pupils. The percentage of favorable responses were given at 87.8 for experimental group parents and 87.5 for control group parents. The results clearly indicate a highly favorable attitude toward the school programs among both experimental and control group pupils, based on parental perceptions of their children.

The third set of responses indicated parental opinions on parental involvement with the school in the education of their children. Specifically, the question presented was: Should parents become more closely involved with the school relative to the education of their children? Parents of experimental group children scored 62.5 per cent in the "yes" category as compared to 70.8 among parents of control group children.

It is apparent that both scores again are closely related, which suggests an insignificant difference between the two groups on this variable. More importantly, it is noted that both groups scored well over 50 per cent in the "yes" category, wich suggests that both groups of parents perceive a need for greater parental participation in the school relative to the education of their children.

In summary, the aforementioned statistical findings reveal very close similarities between parents of experimental and control group children on the three given variables. It is noteworthy that both groups of parents scored well above 50 per cent in the "favorable" and "yes" categories, which clearly indicates positive educational expectations for the children, favorable attitudes toward the school programs among the children, and a parental desirability for greater involvement in the school relative to the education of their children. In essence it appears that the bilingual/bicultural program did not produce a greater effect on the three attitudinal variables among parents of experimental group children as compared to parents of control group children.

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The statistical findings have revealed a need for an English oral language program for children in the region whose English oral language proficiency is below that of the middle-income Anglo American. The existence of Spanish-speaking and Indian-speaking populations in this geographical area clearly underscores an immediate need for the continuance of this type of an instructional program.

Although the statistical findings do not show highly significant differences between oral English achievement on two of three language variables among the experimental groups as compared to the control group, the group means indicate a trend in favor of pupils exposed to experimental OLP instruction. Moreover, the statistical data clearly show significant gains on oral language development among the experimental groups, based on a pre- versus post-test comparison. And while control group gains also were significant on two of the three language variables (vocabulary and structure), the experimental group gains were more dramatic and consistent on all of the variables measured by the SWCEL Test (vocabulary, pronunciation, and structure). Based on these findings, it is highly recommended that Educational Unit No. 18 continue to provide an English oral language program, similar to that developed by the SWCEL, wherever the need exists among the student population.

The statistical findings also have revealed significant gains in Spanish oral language development in the total experimental group (Spanish surnamed and Anglo pupils). But while the F ratio in terms of correct responses (pre- versus post-test) appears exceedingly high, the number of correct responses

in comparison to the total possible answers is below the 50 per cent level. Moreover, in comparing the Spanish surnamed pre-test mean scores with the post-test mean scores, the number of responses are approximately at the 50 per cent level in both comparisons. This may suggest that Spanish oral language development occurred only among non-Spanish speaking children. Yet, if Spanish oral language instruction was provided to both groups (Spanish-speaking and non-Spanish-speaking) based on differences in language proficiency at the beginning of the program, it is conceivable that the Spanish-speaking children's post-test scores would be higher than those given in the pre-test results. Based on these observations, it can be concluded that while the Spanish Oral Language component appears to have produced some positive effects, the effectiveness of the program for the native Spanish-speaking child is questionable. It also can be concluded that since the pre-test score was already high for the Spanish-speaking children, the limitations of the test instrument (the Spanish Oral Capacity Test) failed to adequately measure and reflect the higher post-test scores of these children. The limitations of this test instrument as a post-test measure has become apparent in another evaluation study. Therefore, two recommendations can be drawn from these observations. One, it is recommended that the Educational Service Unit provide a careful examination of the Spanish language program (content and methodology), followed by well conceived revisions. Two, a Spanish language instrument, based on program content and objectives, must be designed to specifically measure Spanish language development. Should a bilingual program (Spanish and English) be continued in the Scottsbluff District, the Spanish language component will require greater attention and involvement by district personnel and increased

consultancy services and advice from Mexican American bilingual/bicultural specialists.

Clarification and reinforcement of subject matter content must be continued for the non-English speaker, until sufficient facility in oral English has been realized. The utilization of bilingual teacher aides (Spanish and Sioux) is a notable strength in the program and should be continued.

While it was impossible to determine the effects of the Sioux language element in the program due to the absence of measuring instruments in the Sioux Indian district as well as some of the limitations presented by the Council of Sioux Indians in using the Sioux dialect as a medium of instruction, the involvement of people from this ethnic group in several phases of the program may open various alternatives for further development of the bilingual program and assessment strategies.

The Cultural Sensitivity Instrument used in this study provided pre-test and post-test data relative to ethnic group (children) attitudes toward characteristics found in three of the cultural groups in the program. The findings revealed no significant change in attitudes among the three ethnic variables in the evaluation. However,it was noteworthy that the attitudinal changes among Anglo American and Mexican American children were in the positive direction. In comparison to the two aforementioned ethnic groups, it also was noted that the direction of attitudinal change for the Sioux was slightly in the negative direction (pre- versus post-test results); however, this variance was statistically insignificant (yet, degree of favorableness in the latter comparison was maintained beyond 65 per cent.)

More importantly, it was found that relatively favorable attitudes toward characteristics in the three ethnic groups existed among the three cultural groups prior to program exposure. Degree of favorableness was beyond a 70 per cent score for Anglo American and Mexican American children. The Sioux scored only one point below the two other groups on one of the variables (attitude toward Mexican American characteristics), and was beyond 70 per cent on the two other variables (attitudes toward his own and Anglo American characteristics).

Based on the foregoing statistical findings, it was concluded that, in general, the cultural component in the program has maintained a positive perspective among the children relative to characteristics found in the three ethnic groups in the study. The positive trends found among the Mexican American and Anglo American are noteworthy. Further testing from year to year is suggested to determine if this trend will continue. Additional testing also is proposed to show if the small negative dip indicated for the Sioux during the first year will tend to continue or reverse in direction in subsequent years.

A questionnaire was administered to parents of experimental group and control group children to ascertain their educational expectations of their children, favorable or unfavorable attitudes toward the school programs, and parental desirability for greater participation in the school relative to the education of their children. The data show very close similarity between the two groups of parents as well as highly positive responses on the three given variables. It appears that the bilingual/bicultural program did not produce a greater effect on the three attitudinal variables among parents of experimental group children as compared to parents of control group children. Since

the percentage of favorable responses tended to be relatively high on the three variables and between the two groups of parents, it can be suggested that District personnel continue to present media and situations that will maintain and enhance parental attitudes toward the school programs. Finally, it is suggested that the District apply increased effort in providing a variety of meaningful situations for greater parental participation in school affairs relative to the education of the children.

Bilingual/bicultural education remains a potential program for the enhancement of learning among children who use languages and make reference to cultural elements other than the middle-class Anglo American. The project proposal clearly had indicated need of this type of curricular and instructional emphasis in the area served by the Educational Service Unit No. 18. It is hoped that further consideration is given to the continuance of this type of program, coupled with the type of revisions that will increase its educational effects among children in the target population. Where the bilingual component is not feasible, it is <u>strongly</u> recommended that the Education Service Center extend continuous effort to the inclusion of content and methodology related to the cultural heritage of the various ethnic groups in this geographical area.